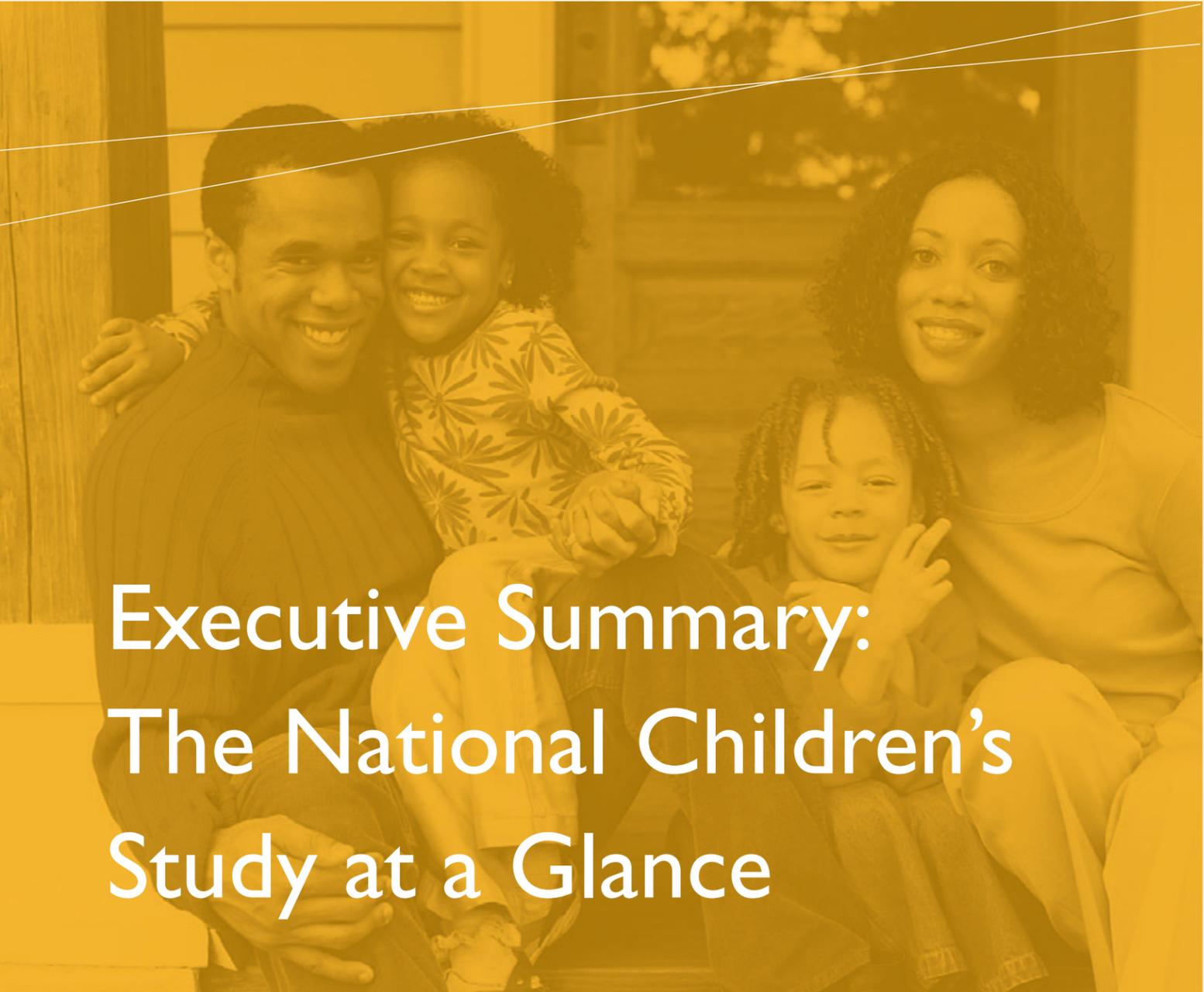


BUILDING THE NATIONAL CHILDREN'S STUDY





Executive Summary: The National Children's Study at a Glance

WHAT IS THE NATIONAL CHILDREN'S STUDY?

The National Children's Study is a long-term research project that will examine the environmental influences on children's health and development. It will be the largest long-term study of children's health and development ever to be conducted in the United States. The Study will involve 100,000 children, from before birth to age 21, to better understand the link between the environments in which children are raised and their physical and mental health and development. For the Study, the "environment" is defined broadly to include physical surroundings; biological and chemical factors; geography; and social, educational, behavioral, family, and cultural influences. By linking multiple environmental factors to multiple health and developmental outcome measures, the Study has the ability to pinpoint the root causes of many of today's major childhood diseases and disorders, and to determine not only which aspects of the environment are harmful, but also which are harmless or helpful to children's health and development.

WHAT ISSUES WILL THE STUDY FOCUS ON?

The National Children's Study is framed by a set of key scientific research questions that include some of the most pressing health and development concerns for children today. Designed as a longitudinal cohort study, it will examine participants' growth and development over time. The Study will produce information of unprecedented value for scientists, health professionals, and families about multiple concerns in child health and development, including pregnancy-related outcomes, obesity, diabetes, asthma, injury, and social behavior. By incorporating and applying new scientific and

information technologies to key research questions, the Study offers the capacity to relate previously unconnected and new data. This unique potential offers hope for new knowledge of and health care approaches to the nation's critical health and environmental concerns.

WHY IS THE STUDY IMPORTANT?

The National Children's Study will provide essential information about many serious health conditions and threats to optimum physical and mental development. The Study will build a valuable data storehouse touching many areas of concern and need—and will even be prepared to answer questions that scientists and the public have yet to ask. Unlike studies that seek answers to a single question, the Study will address multiple questions together to provide as much information as possible. Examples of such questions include: In what specific ways are prenatal exposures to pesticides linked to an increased risk for learning and developmental disabilities? How do viral infections in early childhood influence subsequent development of asthma? How do chemical exposures and social factors interact to affect child development? How do various environmental factors interact with certain genes in children and young adults? And as these interactions occur, how are disease or health altered in the present or later life?

WHY NOW?

A confluence of events points to the need for a study on children's health in the beginning of the 21st century. The Collaborative Perinatal Project—the last major long-term study of American children—took place in the 1960s, and its findings are outdated by technology standards and lifestyle differences. Meanwhile, the rates of obesity, asthma, autism, and some other common childhood diseases and disorders

are on the rise, with no signs of abating. Several studies have pointed to potential causes of conditions such as autism and asthma, but these studies were not large enough to draw more complete conclusions about the complex interactions of environmental, social, and genetic factors that contribute to disease, or about effective prevention strategies.

There is also a societal and economic need for the National Children's Study data. The annual costs to the American economy associated with the priority health and disease outcomes addressed by the National Children's Study currently total in the hundreds of billions of dollars (see page 27). With indicators showing that healthy children have better school attendance, learn better, and are more likely to grow up to be productive workers and family members, now is the time to pursue a long-term study of factors influencing the health and development of the nation's children.

Today's scientists and other researchers are better equipped than their predecessors to undertake the challenges posed by the Study. Technology now exists to collect and analyze the vast amounts of data the Study will deliver. New tools make possible measurements of exposure to many environmental influences. There are now better means to keep participant records safe and confidential. And, with the completion of the human genome sequence in 2003, there is an extraordinary opportunity to analyze the interactions between genetic and environmental factors that affect health.

WHY FOCUS THE RESEARCH ON CHILDREN?

Children are not simply "little adults." Their immature systems often make them more vulnerable than adults to environmental exposures. And young

children interact with the environment differently. For instance, they spend more time on the ground, close to dust, soil, and other elements of the environment. Scientists need to know more about many environmental factors and whether they are harmful, harmless, or helpful to children's health and development. Studies conducted with adults often have little application to children. Research findings on the effects of lead on child development or findings of the impact of maternal alcohol use on the fetus highlight the need for concern about environmental exposures and children's developing systems. Past lessons like these form a key rationale for exploring the effects of other potentially serious environmental influences on children.

WHO WILL BE INVOLVED?

The National Children's Study will recruit more than 100,000 women from across the United States who are likely to have a child in the near future. These women will constitute a cross section of ethnic, geographic, and socioeconomic groups and will be representative of the national population. The Study plans to start recruitment in 2006 and expand nationwide in 2007. By including families from varied backgrounds and family structures, the Study can better investigate issues of vital interest to all communities.

WHO IS LEADING THE STUDY?

The National Children's Study will be a collaborative effort involving a host of public and private partners committed to improving children's health. The U.S. Department of Health and Human Services (HHS)—through the National Institutes of Health (NIH) and Centers for Disease Control and Prevention (CDC)—and the U.S. Environmental Protection Agency (EPA) are leading

the Study. The Study will rely on a consortium of more than 40 federal agencies and departments, as well as on child and environmental advocacy and support groups, private industries and foundations, community leaders, university-based scientists, and local medical sites across the country.

Researchers from each of these entities are participating in advisory and consultative groups and, in some instances, are helping to design and guide the Study. As the Study evolves, the consortium will maintain partnerships to ensure that the Study is addressing the pressing public health problems of the nation. The consortium, together with its partners, will sustain the Study over the next two decades and ensure that all organizations, agencies, and groups are focused on common goals.

WHAT WILL WE GET FROM THE NATIONAL CHILDREN'S STUDY—AND WHEN?

The National Children's Study will identify early-life exposures that affect individuals before birth, during childhood, and throughout the rest of their lives. It will provide researchers, health care providers, educators, and others who work with children with a resource of data from which to develop prevention strategies, health and safety guidelines, educational approaches, and, possibly, new treatments and cures for health conditions. In addition, the Study will help to prove or disprove many theories of child health and development that are speculative today. For the first time, a Study will allow researchers to apply knowledge of the human genome on a large scale and to understand the conditions that arise from many factors, including gene/environment interactions. It will provide answers to questions about children's health and



development for many years. Researchers will not need to wait for the completion of the Study to analyze the results. Beginning with birth outcomes, findings will become available within two to three years after the Study is launched. Throughout the Study's duration, intermittent results will allow for continued insights.

WHY SHOULD I GET INVOLVED WITH THE NATIONAL CHILDREN'S STUDY?

By supporting the National Children's Study, whether through expertise, communication, community resources, participation in the Study, or other ways, you will be helping to improve the health and well being of children for years to come. The success of the Study rests solely on the participation and support of health care providers, scientists and other researchers, educators, community leaders and liaisons, child health and environmental advocacy and support groups, policy makers, and, of course, those who volunteer to participate in the Study and their families.